News

Korean scientists clone 30 human embryos

Tim Radford *Seattle*

South Korean scientists based at the Seoul National University stirred up a storm worldwide last week when they announced in the online edition of the journal *Science* that they had derived a line of pluripotent embryo stem cells from one of 30 cloned blastocysts created by somatic cell nuclear transfer. In other words, they had created the first human cloned embryos (www.sciencemag.org/cgi/content/abstract/1094515).

Until last week, the consensus among cloning scientists had been that humans—and other primates—might prove much more difficult to clone than mice or sheep.

The team was led by Woo Suk Hwang of the university's veterinary college and Shin Yong Moon, a gynaecologist. Both called for a worldwide ban on human cloning for reproductive purposes. "Our goal is not to clone humans but to understand the causes of disease. Our aspiration is to treat incurable diseases," Dr Hwang told the meeting of the American Association for the Advancement of Science in Seattle. "Now we stop and think before taking the next step."

The scientists used 242 eggs from 16 women donors. Because they started with a huge number of eggs, they could vary the methods they used and the media in which they grew the cells. They derived 30 blastocysts and from these tried 20 times to produce a line of embryo stem cells.

The success rate was not high, possibly because of chromosomal abnormalities that appeared in the reprogramming or possibly because of subtle variations in the techniques they used. They ended up with just one line of stem cells, cultivated from a blastocyst that had been cloned from nuclear material taken from cumulus cells belonging to the woman who had donated the egg in the first place. The existence of a dish of embryo stem cells at least in theory opens the way for a kind of "personalised" medicine, in which patients with, for example, diabetes or Parkinson's disease could receive transplants of tissue containing their own DNA, thus sidestepping many of the problems of immune rejection.

AP/ANDY ROGERS

Woo Suk Hwang: "Now we stop and think before taking the next step"

But such treatments were in practice years away, acknowledged Donald Kennedy, editor in chief of *Science*. "Nobody is going to clone any people using this technique. The best hope is that for some people, some women particularly under certain circumstances, it might be a useful way to create a safer form of transplantation therapy. That is about all you can say," he said.

Richard Gardner, who led the Royal Society's working group on stem cells, said: "This announcement does not make attempts at human reproductive cloning any more desirable, ethical, or safe." (See p 415.) □

Study finds no connection between MMR vaccine and autism

Scott Gottlieb *New York*

The results of a large new study in the journal *Pediatrics* show no relation between the combined vaccination against measles, mumps, and rubella (MMR) and the development of autism.

In 2001, a panel of experts convened by the US Institute of Medicine, Washington, DC, rejected the contention that vaccination with MMR caused autism, on the basis of overall data at a population level. The panel did, however, encourage additional studies to assess the possibility that a few children might be at increased risk.

Because autism is usually diagnosed during the toddler years, when children receive many childhood vaccinations, some advocacy groups believe that the causes of autism are vaccine related. Many of these groups pointed to thimerosal, a preservative in the MMR vaccine, as a possible culprit. Scientists say it is possible that if it got into the brain, thimerosal could cause brain damage. Although it is no longer used in childhood vaccines in the United States, it remains in the influenza vaccine and in vaccines in other countries.

In the new study, Dr Frank DeStefano from the US Centers for Disease Control and Prevention in Atlanta, Georgia, and colleagues compared the MMR vaccination histories of 624 autistic children and a control group of 1824 school matched, non-autistic children. Vaccination data were abstracted from immunisation forms required for school entry. Records of children who were born in Georgia, Atlanta, were linked to Georgia birth certificates for information on maternal and birth factors (*Pediatrics* 2004;113:259-66).

In the study, most of the autistic children (70.5%) and the control children (67.5%) were vaccinated by the recommended age of 12 to 15 months. When the team analysed different age cut offs, they found that similar proportions of case and control children were vaccinated before age 18 months or before age 24 months, when developmental abnormalities are usually recognised.

The data also show no link between receipt of the MMR vaccine and the development of autism in any of the subgroups of children analysed, including those who seemed to be developing normally and then regressed and those who developed up to a certain point and then reached a plateau. □